REMARKS

Summary

Claims 1, 6-8, 10, and 21 have been amended. No new matter has been added. Support for the amendments may be found in at least the Abstract, paragraphs 18-19, and FIG. 1 of the application. Claims 5, 18, and 26 have been canceled without prejudice or disclaimer. Claim 26 was previously canceled without prejudice or disclaimer. Applicants respectfully submit that the claims are in condition for allowance.

Claims 10, 11, 13, 15, 18 and 19 are Allowable

The Office has rejected claims 10, 11, 13, 15, 18 and 19 at paragraph 3 of the Office Action mailed February 19, 2008 ("Office Action"), under 35 U.S.C. § 103(a) as being unpatentable over U.S. Application No. 2002/0191541 ("Buchanan"). Claim 18 has been canceled without prejudice or disclaimer, rendering its rejection moot. Applicants respectfully traverse the remaining rejections.

The cited portions of Buchanan fail to disclose the specific combination of claim 10. For example, the cited portions of Buchanan fail to disclose "assigning route targets to each of the customer edge routers based on topology requirements of the backbone network and based on the set of rules, wherein route targets are grouped into sets and duplicate sets of route targets are removed based on the route targets between duplicate sets of route targets being the same, and wherein the topology requirements comprise a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 10. Buchanan describes a user interface which "allows the provisioning operator to *graphically set-up* QoS and routing relationships between the different sites". *See* Buchanan, paragraph 0031. However, the cited portions of Buchanan fail to disclose allowing the provisioning operator to enter a *plurality of data entries*, a first set of the data entries identifying CEs, a second set of data entries identifying PEs corresponding to each of the CEs, and a third set of the data entries identifying a topology type for each of the virtual private

networks. Thus, the cited portions of Buchanan fail to disclose at least one element of claim 10. Hence, claim 10 is allowable.

In addition, Buchanan fails to disclose "wherein route targets are grouped into sets and *duplicate sets of route targets are removed* based on the route targets between duplicate sets of route targets being the same", as in claim 10 (emphasis added). In Buchanan, routes are discarded based on whether or not they come from the same site. *See* Buchanan, paragraph 0062. Routes are not discarded based on sets of route targets. Further, the items that are discarded in Buchanan are not sets of route targets, but are instead the routes themselves of which the route target is but one piece of information. *See* Buchanan, paragraph 0062. Buchanan encourages duplicate route targets by re-advertising routes with identical route targets with only the route distinguisher and NextHopInfo portions of the route information changed. *See* Buchanan, paragraph 0062. Thus, Buchanan fails to disclose or suggest "wherein route targets are grouped into sets and duplicate sets of route targets are removed based on the route targets between duplicate sets of route targets being the same", as in claim 10. For this additional reason, claim 10 is allowable.

Claims 11, 13, 15, 18 and 19 depend from claim 10, which Applicants have shown to be allowable. Accordingly, claims 11, 13, 15, 18 and 19 are allowable, at least by virtue of their dependence from claim 10.

Claims 16-17 are Allowable

The Office has rejected claims 16-17 at paragraph 7 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan in view of U.S. Patent No. 6909696 ("Zavgren"). Applicants respectfully traverse the rejections.

Claims 16-17 depend from claim 10. As previously discussed, the cited portions of Buchanan fail to disclose at least two elements of claim 10. The cited portions of Zavgren fail to cure these deficiencies. Zavgren discloses a system that facilitates the visualization of a network having multiple nodes by collecting information that describes network operation over a period of time. *See* Zavgren, Abstract. Zavgren further discloses that the system reconstructs the network operation for the time period from the collected information and *presents the reconstructed network operation* to an operator. *See* Zavgren, Abstract (emphasis added). Thus,

in Zavgren, a network operation is *reconstructed* using information collected during a time period. However, *reconstructing* a network operation is not equivalent to *assigning* route targets to each of the customer edge routers based on topology requirements of the backbone network and based on the set of rules. Therefore, Zavgren fails to disclose or suggest "assigning route targets to each of the customer edge routers based on topology requirements of the backbone network and based on the set of rules", as in claim 10. In addition, the cited portions of Zavgren also fail to disclose "wherein route targets are grouped into sets and duplicate sets of route targets are removed based on the route targets between duplicate sets of route targets being the same", as in claim 10. Thus, the cited portions of Buchanan and Zavgren fail to disclose at least two elements of claim 10 and claims 16-17. Hence, for these additional reasons, claims 16 and 17 are allowable.

Claim 20 is Allowable

The Office has rejected claim 20 at paragraph 9 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan in view of U.S. Application No. 2003/0079043 ("Chang"). Applicants respectfully traverse the rejection.

Claim 20 depends from claim 10. As previously discussed, the cited portions of Buchanan fail to disclose at least two elements of claim 10. The cited portions of Chang fail to cure these deficiencies. Chang discloses a "VPN service management system enabling a customer to rapidly and easily change a VPN service condition, that is, a VPN service management system for managing a VPN service for a communication network provided with a customer network and a provider network and having a VPN service manager for managing a VPN service for a provider network and a VPN service agent for managing a VPN service for a customer network". *See* Chang, Abstract. Chang discloses a mode of operation of a VPN service to advance a wide area promotion of business. *See* Chang, paragraph 0003. However, the cited portions of Chang fail to disclose "wherein the topology requirements comprise a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 10. In addition, the cited portions of Chang fail to disclose "wherein route targets are grouped into sets and duplicate

sets of route targets are removed based on the route targets between duplicate sets of route targets being the same", as in claim 10. Therefore, the cited portions of Buchanan and Change fail to disclose at least two elements of claim 10 and claim 20. Hence, for these additional reasons, claim 20 is allowable.

Claims 12 and 14 are Allowable

The Office has rejected claims 12 and 14 at paragraph 10 of the Office Action, as being unpatentable over Buchanan in view of United States Application No. 2004/0255028 ("Chu"). Applicants respectfully traverse the rejections.

Claims 12 and 14 depend from claim 10. As previously discussed, the cited portions of Buchanan fail to disclose at least two elements of claim 10. The cited portions of Chu fail to cure these deficiencies. Chu discloses "[f]unctional decomposition of a router to support virtual private network (VPN) services". *See* Chu, Title. Functional decomposition of a router to support VPN services fails to disclose "wherein the topology requirements comprise a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 10. In addition, the cited portions of Chu fail to disclose "wherein route targets are grouped into sets and duplicate sets of route targets are removed based on the route targets between duplicate sets of route targets being the same", as in claim 10. Hence, for these additional reasons, claims 12 and 14 are allowable.

Claims 8, 9 and 21-25 are Allowable

The Office has rejected claims 8, 9 and 21-26 at paragraph 4 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan in view of United States Application No. 2004/0037275 ("Li".). Applicants respectfully traverse the rejections.

Claims 8 and 9

The cited portions of Buchanan and Li fail to disclose or suggest the specific combinations of claim 8. For example, the cited portions of Buchanan and Li, individually or in combination, fail to disclose "wherein the display portion of the terminal provides an input screen having a data format configured to prompt the user to provide high-level network

topology data via the data input device, the high-level network topology data including a plurality of data entries, *a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)*", as in claim 8 (emphasis added). Buchanan describes a user interface which "allows the provisioning operator to graphically set-up QoS and routing relationships between the different sites". *See* Buchanan, paragraph 0031. However, the cited portions of Buchanan fail to disclose allowing the provisioning operator to enter a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN). Thus, the cited portions of Buchanan fail to disclose at least one element of claim 8. Li fails to cure this deficiency.

Li discloses "a 3-layer Virtual Private Network (VPN) which comprises P devices and PE devices in the backbone network, a plurality of sites and CE devices in subscribers' VPNs, and Hierarchy of PE (HoPE) devices, said HoPE devices serve as edge routers in the backbone network and are connected to P devices in the backbone network as well as sites and CE devices in subscribers' VPNs; said HoPE devices comprise understratum PEs (UPEs), zero or more middle-level PEs (MPES) and superior PEs (SPEs) connected with each other, and *all of said PEs (UPEs, MPEs, and SPEs) take different roles and deliver the function of a central PE*". *See* Li, Abstract. Thus, in Li, the different types of PEs take different roles and function as a central PE. However, the cited portion of Li fails to disclose "wherein the display portion of the terminal provides an input screen having a data format configured to prompt the user to provide high-level network topology data via the data input device, the high-level network topology data including a plurality of data entries, *a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)*", as in claim 8 (emphasis added). Therefore, Buchanan and Li fail to disclose at least one element of claim 8. Hence, claim 8 is allowable.

Claim 9 depends from claim 8, which Applicants have shown to be allowable. Accordingly, claim 8 is allowable, at least by virtue of its dependence from claim 8.

Claims 21-25

The cited portions of Buchanan and Li fail to disclose or suggest the specific combinations of claim 21. For example, the cited portions of Buchanan and Li, individually or in combination, fail to disclose "a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 21. As previously discussed, Buchanan describes a user interface which "allows the provisioning operator to graphically set-up QoS and routing relationships between the different sites". *See* Buchanan, paragraph 0031. However, the cited portions of Buchanan fail to disclose wherein the high-level network topology data comprises a plurality of data entries, including a first set of the data entries identifying CEs, a second set of data entries identifying PEs corresponding to each of the CEs, and a third set of the data entries identifying a topology type for each of the virtual private networks. Thus, the cited portions of Buchanan fail to disclose at least one element of claim 21. Li fails to cure these deficiencies. As previously discussed, in Li, the different types of PEs take different roles and function as a central PE. However, the cited portion of Li fails to disclose "a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 21. Therefore, Buchanan and Li fail to disclose at least one element of claim 21. Hence, claim 21 is allowable.

Claims 22-25 depend from claim 21, which Applicants have shown to be allowable. Accordingly, claims 22-25 are allowable, at least by virtue of its dependence from claim 21.

In addition, claims 22-25 disclose additional elements not disclosed by the cited portions of Buchanan and Li. For example, the cited portions of Buchanan and Li fail to disclose "wherein the set of rules includes a first set of rules to handle route target to VRF mapping based

on a meshed topology and a second set of rules to handle route targets to VRF mapping for a hub and spoke topology and a third set of rules to handle route targets to VRF mapping for a central service topology", as in claim 22. Therefore, claims 22-25 are allowable.

Claims 1, 2, 5, and 6 are Allowable

The Office has rejected claims 1, 2, 5 and 6 on page 16 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan in view of United States Patent No. 7,024,472 ("Datta"). Claim 5 has been canceled without prejudice or disclaimer, rendering its rejection moot. Applicants respectfully traverse the remaining rejections.

The cited portions of Buchanan fail to disclose the specific combination of claim 1. For example, the cited portions of Buchanan fail to disclose "receiving, from an operator, data comprising a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 1. Datta fails to cure this deficiency. Datta discloses a data collection system for the scaleable processing of *network accounting data*. *See* Datta, Abstract. Network accounting data is not equivalent to data comprising a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN). Thus, the cited portions of Datta fail to disclose "receiving, from an operator, data comprising a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 1. Accordingly, the cited portions of Buchanan and Datta fail to disclose at least one element of claim 1. Hence, claim 1 is allowable.

Claims 2-7 depend from claim 1, which Applicants have shown to be allowable. Accordingly, claims 2-7 are allowable, at least by virtue of their dependence from claim 1.

The Office has rejected claims 3 and 4 on page 22 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan and Datta in view of Zavgren. Applicants respectfully traverse the rejections.

Claims 3 and 4 are Allowable

Claims 3 and 4 depend from claim 1. As previously discussed, Buchanan and Datta fail to disclose at least one element of claim 1. Zavgren fails to cure this deficiency. The cited portions of Zavgren fail to disclose "receiving, from an operator, data comprising a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 1. Accordingly, the cited portions of Buchanan, Datta and Zavgren fail to disclose at least one element of claim 1. Therefore, the cited portions of Buchanan, Datta, and Zavgren fail to disclose at least one element of claims 3 and 4. Hence, claims 3-4 are allowable.

Claim 7 is Allowable

The Office has rejected claim 7 on page 25 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Buchanan and Datta in view of Chang. Applicants respectfully traverse the rejection.

Claim 7 depends from claim 1. As previously discussed, Buchanan and Datta fail to disclose at least one element of claim 1. Chang fails to cure this deficiency. The cited portions of Chang fail to disclose "receiving, from an operator, data comprising a plurality of data entries, a first set of the plurality of data entries identifying customer edge (CE) routers, a second set of the plurality of data entries identifying provider edge (PE) routers corresponding to each of the customer edge routers, and a third set of the plurality of data entries identifying a topology type of a virtual private network (VPN)", as in claim 1. Hence, for this additional reason, claim 7 is allowable.

CONCLUSION

Applicants have pointed out specific features of the claims not disclosed, suggested, or rendered obvious by the cited portions of the references applied in the Office Action. Accordingly, Applicants respectfully request reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.
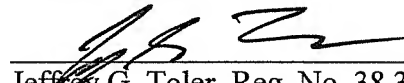
Any changes to the claims in this response, which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

6-19. 2008
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Date

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